

## Valid Names Results

*Dysmicoccus brevipipes* (Cockerell, 1893) ([Pseudococcidae](#): [Dysmicoccus](#))

### Nomenclatural History

- *Dactylopius bromeliae*; Signoret 1875b: 310. misidentification
- *Dactylopius brevipipes* Cockerell 1893n: 267. Type data: JAMAICA: Kingston, on pineapples. Syntypes, female, accepted valid name [Notes](#): Type material probably lost.
- *Pseudococcus brevipipes* (Cockerell, 1893); Fernald 1903b: 98. change of combination
- *Pseudococcus bromeliae*; Fernald 1903b: 98. misidentification
- *Dactylopius (Pseudococcus) ananassae* Kuwana 1909a: 162. Type data: JAPAN: Ogasawara (Bonin) Islands, on pineapple. Syntypes, female, Type depository: Ibaraki-ken: Insect Taxonomy Laboratory, National Institute of Agricultural Environmental Sciences, Kannon-dai, Yatabe, Tsukuba-shi, (Kuwana), Japan . junior synonym (discovered by Kawai1980, 104).
- *Pseudococcus missionum* Cockerell 1910: 113. Type data: ARGENTINA: Santa Ana Misiones, No. 13. Lectotype, female, by subsequent designation (WilliaGr1992,141). Type depository: Washington: United States National Entomological Collection, U.S. National Museum of Natural History, District of Columbia, USA . junior synonym (discovered by WilliaGr1992, 141).
- *Pseudococcus bromeliae*; Hempel 1912: 24. misidentification
- *Pseudococcus bromeliae*; Green 1922: xxx. misidentification
- *Pseudococcus palauensis* Kanda 1933a: 135. Type data: PALAU ISLAND: on pineapple. Syntypes, female, Type depository: Taichung: Entomology Collection, Taiwan Agricultural Research Institute, Wu-feng, Taichung, Taiwan . junior synonym (discovered by Takaha1936c, 109).
- *Pseudococcus cannae* Green 1934e: 162. Type data: SRI LANKA: Paradeniya, on rhizomes of *Canna* sp. and roots of *Impatiens* sp.. Lectotype, female, by subsequent designation (Willia2004a,168). Type depository: London: The Natural History Museum, England, UK . junior synonym (discovered by Willia1958, 213).
- *Pseudococcus cannae* Green 1934e: 162. replacement name that is unjustified Replacement name for *Pseudococcus bromeliae* sensu Green (non: Bouche), 1922
- *Pseudococcus longirostralis* James 1936: 207. Type data: TANZANIA: Bukoba, on *Coffea arabica*. Lectotype, female, Type depository: London: The Natural History Museum, England, UK . junior synonym (discovered by DeLott1957b, 197).
- *Pseudococcus defluiteri* Betrem 1937: 43. Type data: INDONESIA: Java, Djember, on *Coffea robusta*. Syntypes, female, junior synonym (discovered by Willia2004a, 170). [Notes](#): Type material apparently lost.
- *Pseudococcus pseudobrevipes* Mamet 1941b: 58. Type data: MAURITIUS: Montagne Longue, on *Ananas comosus*. Syntypes, female, Type depository: Paris: Museum National d'Histoire naturelle, France . junior synonym (discovered by Beards1965c, 58). Illustr.
- *Dysmicoccus brevipipes* (Cockerell, 1893); Ferris 1950b: 59. change of combination
- *ysmicoccus brevipipes*; Moghaddam 2009: 34. misspelling of genus name [Notes](#): Misspelling of *ysmicoccus* for *Dysmicoccus*.

### Common Names

- chanchito blanca de la pina [Gonzal1972](#)
- pineapple mealybug [Bartle1978e](#) [McKenz1967](#) [Tryon1901](#)
- pink pineapple mealybug [HeLiZh2014](#)



### Ecological Associates

**Hosts:**

Families: 62 | Genera: 147

- Amaranthaceae
  - *Achyranthes aspera* | MirabaGaCa2018
  - *Amaranthus* | BenDov1994 Granar1991a
  - *Amaranthus* | BenDov1994 WilliaWa1988a
- Anacardiaceae
  - *Anacardium occidentale* | BenDov1994 DeLott1964
  - *Mangifera indica* | BenDov1994 DeLott1964 KinjoNaHi1996 Willia2004a WilliaGr1992
- Annonaceae
  - *Annona muricata* | Beards1966 BenDov1994 McKenz1967 Willia1960 WilliaWa1988a
  - *Annona squamosa* | BenDov1994 Hamble1935 Lepage1938 WilliaWa1988a
- Apiaceae
  - *Apium* | BenDov1994 McKenz1967
  - *Apium graveolens* | BenDov1994 WilliaWa1988a
- Apocynaceae
  - *Asclepias curassavica* | MoraRaBa2018
- Araceae
  - *Colocasia esculenta* | BenDov1994 WilliaBu1987 WilliaWa1988a
  - *Epipremnum pinnatum* | BenDov1994 WilliaWa1988a
- Arecaceae
  - *Areca* | Willia2004a
  - *Areca catechu* | BenDov1994 Takaha1955 Willia2004a
  - *Arecaceae* | BenDov1994 WilliaGr1992
  - *Bactris* | CouturTaln1996
  - *Carpentaria acuminata* | BenDov1994 Willia1985
  - *Caryota urens* | Willia2004a
  - *Chamaedorea seifritzii* | MirabaGaCa2018
  - *Cocos* | HodgsoHi1990
  - *Cocos nucifera* | BenDov1994 DeLott1964 GhoshGh1984
- *Willia*1985 *Willia*Gr1992 *Willia*Wa1988a
  - *Elaeis guineensis* | Almeid1973b BenDov1994 CouturMaRi1985 KondoRaVe2008 WilliaGr1992 WilliaWa1988a
  - *Hyophorbe* | Beards1966
  - *Hyophorbe indica* | McKenz1967
  - *Livistona* | Willia2004a
  - *Phoenix dactylifera* | BenDov1985a BenDov1994 SumaMaLa2015
  - *Ptychosperma* | Willia2004a
  - *Rhapis* | BenDov1994 Borchs1949
  - *Rhapis excelsa* | daLuzBoSa2005
  - *Roystonea* | BenDov1994 Willia1985
  - *Sabal bermudana* | BenDov1994 WilliaGr1992
  - *Syagrus comosa* | BenDov2012
- Asparagaceae
  - *Agave sisalana* | BenDov1994 Zimmer1948
  - *Asparagus* | BenDov1994 WilliaGr1992
  - *Beaucarnea recurvata* | MazzeoSuRu2008
- Aspleniaceae
  - *Asplenium nidus* | BenDov1994 WilliaWa1988a
- Asteraceae
  - *Emilia sonchifolia* | BenDov1994 WilliaWa1988a
  - *Fitchia speciosa* | BenDov1994 WilliaWa1988a
  - *Struchium sparganophorum* | BenDov1994 WilliaGr1992
  - *Taraxacum* | BenDov1994 WilliaGr1992
- Balsaminaceae
  - *Impatiens* | Betrem1937 Green1934c Willia2004a
- Bignoniaceae
  - *Crescentia cujete* | BenDov1994 WilliaGr1992
- Boraginaceae
  - *Cordia alliodora* | Morris1929
  - *Cordia nodosa* | BenDov1994 Morris1922



- Brassicaceae
  - *Brassica rapa* | BenDov1994 WilliaWa1988a
- Bromeliaceae
  - *Aechmea* | BenDov1994 WilliaGr1992
  - *Ananas* | HodgsoHi1990 WilliaWa1988a
  - *Ananas comosus* | Almeid1973b Balach1957b Betrem1937 Kuwana1909a Marott1987a Willia1985 WilliaWa1988a
  - *Ananas comosus* | Beards1959a Beards1966 Borchs1949 CarnerPe1986 DanzigKo1990 Fernal1903b Green1937 Mamet1941b
  - *Ananas comosus* | BenDov1994 DeLott1964 Lepage1938 Morris1920 WilliaGr1992
  - *Bromelia* | Willia2004a
  - *Bromeliaceae* | McKenz1967
- Cactaceae
  - *Hylocereus megalanthus* | MedinaKo2012
- Calophyllaceae
  - *Mammea americana* | BenDov1994 WilliaWa1988a
- Cannaceae
  - *Canna* | BenDov1994 Green1934c McKenz1967 Willia2004a
  - *Canna indica* | BenDov1994 WilliaWa1988a
- Combretaceae
  - *Terminalia catappa* | BenDov1994 WilliaWa1988a
- Commelinaceae
  - *Commelina diffusa* | MoraRaBa2018
- Convolvulaceae
  - *Cressa cretica* | BenDov1994 Hall1926
  - *Ipomoea batatas* | BenDov1994 DeLott1964 WilliaWa1988a
  - *Ipomoea batatas* | DeLott1964
- Cucurbitaceae
  - *Cucumis sativus* | BenDov1994 Willia1985
  - *Cucurbita* | Willia2004a
  - *Cucurbita maxima* | BenDov1994 WilliaWa1988a
  - *Cucurbita pepo* | BenDov1994 CulikGu2005 Willia1985
- Cupressaceae
  - *Juniperus* | McKenz1967
  - *Thuja* | BenDov1994 Granar1991a WilliaGr1992
- Cyperaceae
  - *Cyperaceae* | Willia2004a
  - *Cyperus* | Borchs1949 GranarScTe1997 Lepage1938 WilliaWa1988a
  - *Cyperus anderssonii* | LincanHoCa2010
  - *Cyperus dentatus* | BenDov1994 WilliaGr1992
  - *Cyperus elegans* | BenDov1994 WilliaGr1992
  - *Cyperus haematodes* | BenDov1994 WilliaGr1992
  - *Cyperus odoratus* | MoraRaBa2018 (= *Cyperus ferax*)
  - *Cyperus rotundus* | BenDov1985a BenDov1994 McKenz1967 WilliaGr1992 WilliaWa1988a
  - *Fimbristylis* | WilliaWa1988a
  - *Fimbristylis cymosa* | BenDov1994 WilliaWa1988a
  - *Rhynchospora cephalotes* | BenDov1994 WilliaGr1992
  - *Scleria* | BenDov1994 WilliaGr1992
- Dioscoreaceae
  - *Dioscorea alata* | MirabaGaCa2018
- Ebenaceae
  - *Diospyros kaki* | Hamble1935 Lepage1938
- Euphorbiaceae
  - *Euphorbia* | BenDov1994 McKenz1967
  - *Euphorbia drummondii* | BenDov1994 Willia1985
  - *Jatropha curcas* | MartinBISu2005
  - *Manihot esculenta* | BenDov1994 Willia1970DJ
- Fabaceae
  - *Acacia* | BenDov1994 WilliaBu1987
  - *Arachis* | WilliaWa1988a
  - *Arachis hypogaea* | BenDov1994 Lepage1938 Willia1985 WilliaGr1992 WilliaWa1988a
  - *Cajanus cajan* | BenDov1994 WilliaWa1988a
  - *Desmodium* | BenDov1994 Granar1991a WilliaGr1992



- *Dipteryx odorata* | BenDov1994 WilliaGr1992
- *Erythrina* | WilliaWa1988a
- *Erythrina variegata* | BenDov1994 WilliaWa1988a
- *Gliricidia* | BenDov1994 McKenz1967 Zimmer1948
- *Glycine max* | BenDov1994 Granar1991a Willia1985 WilliaGr1992 WilliaWa1988a
- *Inocarpus fagifer* | BenDov1994 WilliaWa1988a
- *Medicago sativa* | BenDov1994 Willia1985
- *Melilotus indicus* | Beards1959a
- *Saraca declinata* | Willia2004a
- *Tachigali paniculata* | BenDov1994 Morris1922
- *Tipuana tipu* | BenDov1994 Granar1991a
- *Trifolium* | BenDov1994 DeLott1964
- *Trifolium pratense* | BenDov1994 WilliaGr1992
- *Trifolium repens* | BenDov1994 WilliaGr1992
- Heliconiaceae
  - *Heliconia latispatha* | BenDov1994 WilliaWa1988a
- Hydnoraceae
  - *Prosopanche americana* | BenDov1994 Granar1991a WilliaGr1992
- Iridaceae
  - *Watsonia* | BenDov1994 DeLott1964
- Juncaceae
  - *Juncus* | BenDov1994 Hall1926
- Lauraceae
  - *Ocotea atirrensis* | BenDov1994 WilliaGr1992
  - *Ocotea sassafras* | BenDov1994 WilliaGr1992
  - *Persea americana* | BenDov1994 WilliaGr1992
- Lythraceae
  - *Punica granatum* | MirabaGaCa2018
- Malvaceae
  - *Gossypium* | BenDov1994 DeLott1964 Hamble1935 Lepage1938 McKenz1967
  - *Herrania camargoana* | BenDov1994 WilliaGr1992
- *Hibiscus* | Borchs1949
- *Sida* | BenDov1994 McKenz1967
- *Theobroma bicolor* | BenDov1994 WilliaGr1992
- *Theobroma cacao* | BenDov1994 Bennet1957 DeLott1964 KondoRaVe2008 WilliaWa1988a
- *Theobroma subincanum* | BenDov1994 WilliaGr1992
- Marantaceae
  - *Calathea* | Willia2004a
- Melastomataceae
  - *Mouriri myrtilloides* | BenDov1994 WilliaGr1992
- Meliaceae
  - *Xylocarpus* | Willia2004a
- Menyanthaceae
  - *Nymphoides indica* | BenDov1994 WilliaGr1992
- Moraceae
  - *Artocarpus altilis* | BenDov1994 WilliaWa1988a
  - *Ficus* | BenDov1994 WilliaGr1992
  - *Ficus maxima* | BenDov1994 WilliaGr1992
  - *Morus* | Borchs1949
  - *Morus alba* | Lepage1938
- Musaceae
  - *Musa* | KondoRaVe2008 MatileWi1996 McKenz1967 Morris1920 WilliaWa1988a
  - *Musa paradisiaca* | BenDov1994 DeLott1964 Marott1987a Willia1985 WilliaWa1988a
  - *Musa paradisiaca* | BenDov1994 WilliaWa1988a
- Myrtaceae
  - *Myrciaria dubia* | WolffKoPe2016
  - *Psidium guajava* | BenDov1994 Willia2004a WilliaWa1988a
  - *Syzygium aqueum* | Willia2004a
  - *Syzygium aromaticum* | Willia2004a
- Orchidaceae
  - *Euanthe sanderiana* | Willia2004a
  - *Orchidaceae* | BenDov1994 McKenz1967
  - *Orchidaceae* | McKenz1967
  - *Paphiopedilum ciliolare* | Willia20
- Orobanchaceae
  - *Orobanche* | Willia2004a

- Pandanaceae
    - *Pandanus* | GhoshGh1984
    - *Pandanus antaresensis* | BenDov1994 WilliaWa1988a
    - *Pandanus tectorius* | Beards1966
    - *Pandanus tectorius* | Beards1966
    - *Pandanus utilis* | BenDov1994 WilliaWa1988a
  - Phyllanthaceae
    - *Phyllanthus* | BenDov1994 WilliaWa1988a
  - Piperaceae
    - *Piper betle* | BenDov1994 Takaha1942b Willia2004a
    - *Piper majusculum* | BenDov1994 WilliaWa1988a
    - *Piper nigrum* | Willia2004a
  - Plantaginaceae
    - *Plantago major* | BenDov1994 WilliaWa1988a
  - Poaceae
    - *Aristida adoensis* | BenDov1994 DeLott1964
    - *Brachiaria mutica* | BenDov1994 Willia1985
    - *Brachiaria plantaginea* | Hamble1935 Lepage1938
    - *Cenchrus* | BenDov1994 WilliaWa1988a
    - *Chloris barbata* | BenDov1994 McKenz1967
    - *Chloris gayana* | BenDov1994 Willia1985 Willia2004a
    - *Cynodon dactylon* | BenDov1994 Hall1926
    - *Echinochloa polystachya* | BenDov1994 WilliaGr1992
    - *Melinis repens* | BenDov1994 McKenz1967
    - *Melinis repens* | BenDov1994 WilliaGr1992
    - *Melinis repens* | FoldiKo2006
    - *Oryza sativa* | BenDov1994 Hamble1935 Lepage1938 Willia1970DJ
    - *Panicum* | HodgsoHi1990 McKenz1967
    - *Paspalum* | BenDov1994 WilliaGr1992
    - *Paspalum notatum* | MoraRaBa2018
  - *Pennisetum purpureum* | BenDov1994 DeLott1964 McKenz1967
  - *Poaceae* | Balach1939
  - *Saccharum* | HodgsoHi1990 WilliaWa1988a
  - *Saccharum officinarum* | BenDov1994 Ferris1950b Granar1991a Mamet1957 Willia1970DJ WilliaGr1992
  - *Setaria palmifolia* | BenDov1994 Willia1985
  - *Sorghum arundinaceum* | BenDov1994 Willia1985
  - *Sporobolus spicatus* | BenDov1994 Hall1926
  - *Zea mays* | BenDov1994 DeLott1964 Granar1991a Hamble1935 Lepage1938 Willia1985 WilliaGr1992 WilliaWa1988a
- Polygonaceae
    - *Rheum rhaponticum* | BenDov1994 DeLott1964 Willia1985
    - *Rumex acetosa* | BenDov1994 DeLott1964 Hamble1935 Lepage1938
    - *Rumex crispus* | MoraRaBa2018
    - *Triplaris cumingiana* | Morris1929
  - Portulacaceae
    - *Portulaca* | BenDov1994 McKenz1967
  - Ranunculaceae
    - *Anemone* | BenDov1994 DeLott1964
  - Rosaceae
    - *Eriobotrya japonica* | Willia2004a
    - *Fragaria vesca* | BenDov1994 Willia1985
    - *Malus sylvestris* | BenDov1994 WilliaWa1988a
    - *Prunus armeniaca* | BenDov2012
  - Rubiaceae
    - *Coffea* | KondoRaVe2008
    - *Coffea* | KondoRaVe2008 McKenz1967 WilliaWa1988a
    - *Coffea arabica* | BenDov1994 DeLott1957b GhoshGh1984 James1936 WilliaWa1988a
    - *Coffea canephora* | BenDov1994 Betrem1937
    - *Coffea canephora* | BenDov1994 DeLott1964
    - *Coffea canephora* | BenDov1994 Willia2004a WilliaWa1988a



- *Gardenia jasminoides* | BenDov1994 Takaha1955
- *Guettarda speciosa* | BenDov1994 WilliaWa1988a
- *Pavetta triflora* | BenDov1994 WilliaWa1988a
- Rutaceae
  - *Citrus* | BenDov1985a BenDov1994 Borchs1949 Borchs1956d KondoRaVe2008
  - *Citrus limon* | BenDov1994 WilliaWa1988a
  - *Murraya* | BenDov2012
- Sapindaceae
  - *Nephelium lappaceum* | Willia2004a
- Sapotaceae
  - *Manilkara zapota* | Willia2004a
- Solanaceae
  - *Capsicum* | BenDov1994 WilliaGr1992
  - *Solanum nigrum* | MoraRaBa2018
- *Solanum tuberosum* | BenDov1994 Hamble1935 Lepage1938 WilliaGr1992 WilliaWa1988a
- Tamaricaceae
  - *Tamarix nilotica* | BenDov1985a BenDov1994
- Urticaceae
  - *Cecropia* | BenDov1994 KondoRaVe2008 Morris1922 Morris1929
- Vitaceae
  - *Leea rubra* | MirabaGaCa2018
  - *Vitis vinifera* | Willia2004a
- Zingiberaceae
  - *Curcuma* | BenDov2012
  - *Curcuma longa* | Willia2004a
  - *Hedychium flavum* | BenDov1994 WilliaWa1988a
  - *Zingiber officinale* | Willia2004a

## Foes:

Families: 7 | Genera: 15

- Cecidomyiidae
  - *Diadiplosis koebelej* | Moore1988
  - *Dicrodiplosis guatemalensis* | Moore1988
- Chrysopidae
  - *Chrysoperla externa* | GoncalSa2001
- Coccinellidae
  - *Cyrea ormanceayi* | BennetSi1964 | (= *Hyperaspis distinguenda*)
  - *Hyperaspis* | BennetSi1964
  - *Hyperaspis billoti* | BennetSi1964
  - *Hyperaspis jocunda* | BennetSi1964
  - *Hyperaspis silvestrii* | Moore1988
  - *Scymnus* | BennetSi1964
  - *Scymnus coccivora* | ManjusChSu2019
  - *Scymnus margipallens* | Moore1988
  - *Tenuisvalvae bromelicola* | SantosCaPe2017
- Drosophilidae
  - *Cacoxenus perspicax* | ManjusChSu2019
  - *Pseudiastata brasiliensis* | Sabros1951
  - *Pseudiastata pseudococcivora* | Sabros1951
  - *Pseudiastata vorax* | Sabros1951
- Encyrtidae
  - *Anagyrus ananatis* | Gahan1949 GonzalPaJo2005 Moore1988 Pandey2002 PandeyJo2006b
  - *Anagyrus coccidivorus* | Bartle1939



- *Anagyrus dactylopii* | [Gahan1949](#)
- *Anagyrus pseudococci* | [AbdRab2001d](#)
- *Anagyrus schoenherr* | [Gahan1949](#)
- *Anagyrus yuccae* | [Gahan1949](#)
- *Hambletonia pseudococcina* | [Bartle1939](#) [Moore1988](#) [SharkoWo1997](#)
- *Hambletonia pseudococcina* | [Comper1936b](#)
- *Leptomastidea abnormis* | [AbdRab2001d](#)
- *Leptomastix dactylopii* | [AbdRab2001d](#)
- Lycaenidae
  - *Spalgis epeus* | [ManjusChSu2019](#)
- Signiphoridae
  - *Chartocerus* | [AbdRab2001d](#)

### Associates:

Families: 3 | Genera: 5

- Caulimoviridae
  - *BSV* | [PalmaJBIGu2019](#)
  - *Banana Streak Virus* | [SisonCuPo2017](#)
  - *Cocoa Trinidad Virus* | [WilliaGr1992](#)
- Closteroviridae
  - *PMWaV-1* | [OchoaMUrRo2016](#)
  - *PMWaV-2* | [OchoaMUrRo2016](#)
  - *PMWaV-3* | [OchoaMUrRo2016](#)
- Formicidae
  - *Camponotus mitis* | [ManjusChSu2019](#)
  - *Solenopsis geminata* | [CarabaWyMo2013](#)
  - *Solenopsis saevissima* | [GuindaNoWo2017](#)
  - *Technomyrmex albipes* | [ManjusChSu2019](#)

### Geographic Distribution

Countries: 125

- American Samoa | [WilliaWa1988a](#)
- Andaman Islands | [Willia2004a](#)
- Angola | [Almeid1973b](#) [BenDov1994](#)
- Antigua and Barbuda
  - Antigua | [BenDov1994](#) [WilliaGr1992](#)
  - Barbuda | [BenDov1994](#) [CABI1972b](#) [WilliaGr1992](#)
- Argentina
  - Chaco | [GranarCI2003](#)
  - Misiones | [BenDov1994](#) [Cocker1910](#)
  - Salta | [BenDov1994](#) [Granar1991](#) [WilliaGr1992](#)
  - Santa Fe | [GranarCI2003](#)
- Santiago del Estero | [BenDov1994](#) [Granar1991](#)
- Tucuman | [BenDov1994](#) [Granar1991](#) [Granar2009](#)
- Ascension Island | [MalumpWhHa2015](#)
- Australia
  - New South Wales | [BenDov1994](#) [Willia1985](#)
  - Northern Territory | [BenDov1994](#) [Willia1985](#)
  - Queensland | [BenDov1994](#) [Willia1985](#)
  - Western Australia | [BenDov1994](#) [Willia1985](#)
- Azores | [BenDov1994](#) [CABI1972b](#)
- Bahamas | [BenDov1994](#) [WilliaGr1992](#)



- Bangladesh | [BenDov1994 Varshn1992 Willia2004a](#)
- Belize | [BenDov1994 WilliaGr1992](#)
- Bermuda | [BenDov1994 HodgsoHi1990 HodgsoHi1991 WilliaGr1992](#)
- Bolivia | [BenDov1994 DownieGu2004 WilliaGr1992](#)
- Bonin Islands (=Ogasawara-Gunto) | [Kawai1987](#) | [BenDov1994 KawaiMaUm1971 Kuwana1909a](#)
- Brazil | [BenDov1994 Bennet1957 Hamble1935 Lepage1938](#)
  - Bahia | [BenDov1994 CABI1972b FoldiKo2006](#)
  - Espirito Santo | [CulikGu2005 CulikMaVe2007](#)
  - Mato Grosso | [BenDov1994 CABI1972b](#)
  - Minas Gerais | [SantaCCh1998 daLuzBoSa2005](#)
  - Parana | [BenDov1994 CABI1972b](#)
  - Pernambuco | [BenDov1994 CABI1972b](#)
  - Rio Grande do Sul | [BenDov1994 CABI1972b GomesCRe1949](#)
  - Santa Catarina | [BenDov1994 CABI1972b](#)
  - Sao Paulo | [BenDov1994 GomesCRe1948 Hamble1935 Lepage1938](#)
- Brunei | [Willia2004a](#)
- Burkina Faso | [BenDov1994 CABI1972b](#)
- Burundi | [BenDov1994 CABI1972b](#)
- Cameroon | [BenDov1994 CABI1972b](#)
- Canary Islands | [BenDov1994 CarnerPe1986 MatileOr2001 PerezGCa1987](#)
- Cape Verde | [SchmutPiKl1978 VanHarCoWi1990](#)
- Cayman Islands | [BenDov1994 WilliaGr1992](#)
- Chad | [BenDov1994 CABI1972b](#)
- Chile | [Gonzal1972](#)
- China | [BenDov1994 Tang1992 TangHaTa1992](#)
  - Beijing (=Peking) | [WangDaTi2019](#)
  - Guangdong (=Kwangtung) | [WangZhTi2018](#)
  - Hunan | [HuHeWa1992](#)
  - Xizang (=Tibet) | [BenDov1994 Wang1980](#)
- Cocos (=Keeling) Islands | [Willia2004a](#)
- Colombia | [BenDov1994 CABI1972b Kondo2001 Kondo2008a KondoRaVe2008 WilliaGr1992](#)
- Congo | [BenDov1994 Willia1970DJ](#)
- Cook Islands | [BenDov1994 WilliaWa1988a](#)
- Costa Rica | [BenDov1994 CABI1972b WilliaGr1992](#)
- Cote d'Ivoire (=Ivory Coast) | [BenDov1994 CouturMaRi1985](#)
- Cuba | [BenDov1994 CABI1972b MartinBISu2005 WilliaGr1992](#)
- Dominica | [BenDov1994 WilliaGr1992](#)
- Dominican Republic | [Beards1959a BenDov1994 CABI1972b](#)
- Ecuador | [BenDov1994 WilliaGr1992](#)
- Egypt | [BenDov1994 Betrem1937 Hall1926a Willco1922](#)
- El Salvador | [BenDov1994 CABI1972b](#)
- Federated States of Micronesia
  - Caroline Islands | [Beards1966 BenDov1994 ChenWoWu2012](#)
  - Ponape Island | [Beards1966 BenDov1994](#)
  - Truk Islands | [Beards1966 BenDov1994](#)
  - Yap | [BenDov1994 Takaha1941b](#)
- Fiji | [BenDov1994 VeitchGr1921 WilliaWa1988a](#)
- French Guiana | [Remill1988](#)
- French Polynesia | [BenDov1994 WilliaWa1988a](#)
- Galapagos Islands | [CaustoPeSi2006 LincanHoCa2010](#)
- Ghana | [BenDov1994 MatileWi1996 Willia1970DJ](#)
- Greece | [SzitaFeBe2017](#)
- Grenada | [BenDov1994 Willia1970DJ WilliaGr1992](#)
- Guadeloupe | [Balach1957b BenDov1994 MatileEt2006](#)
- Guam | [Beards1966 BenDov1994](#)
- Guatemala | [BenDov1994 CABI1972b WilliaGr1992](#)
- Guinea | [BenDov1994 CABI1972b](#)
- Guyana | [BenDov1994 Morris1920 WilliaGr1992](#)
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- Honduras | BenDov1994 CABI1972b WilliaGr1992
  - India | BenDov1994 CABI1972b Green1937
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  - Jamaica | BenDov1994 Cocker1893n Fernal1903b WilliaGr1992
  - Japan | BenDov1994 KinjoNaHi1996 Takaha1955f
  - Kampuchea (=Cambodia) | Willia2005
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  - Panama | BenDov1994 Morris1929 WilliaGr1992
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    - Krasnodar Kray | BenDov1994 Borchs1949
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    - Principe | BenDov1994 CABI1972b
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  - Singapore | BenDov1994 CABI1972b Willia2004a
  - Solomon Islands | BenDov1994 WilliaWa1988a
  - Somalia | BenDov1994 CABI1972b Schmut1964
  - South Africa | BenDov1994 DeVillBePe
  - Sri Lanka | BenDov1994 Betrem1937 Green1934c Green1937 Varshn1992 Willia2004a



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## Keys

- [Suh2019a](#): pp.2-6 ( Adult (F) ) [mealybugs interepted in S. Korea]
- [CaballRaKo2017](#): pp.498 ( Adult (F) ) [Coccomorpha of sugarcane from Colombia]
- [Tanaka2017a](#): pp.419 ( Adult (F) ) [Japanese species of *Dysmicoccus*]
- [WolffKoPe2016](#): pp.275-277 ( Adult (F) ) [Species recorded on *Myrciaria dubia* in Brazil]
- [TanakaUe2012](#): pp.414 ( Adult (F) ) [Key to separate four new invasive mealybug species: *Dysmicoccus neobrevipes*, *Ph. defectus*, *Ph. parvus* and *P. solenopsis* from other mealybugs occurring in the Ryukyu Archipelago]
- [ParsaKoWi2012](#): pp.10-Aug ( Adult (F) ) [Key to mealybugs (Hemiptera: Pseudococcidae) recorded on *Manihot* spp. (Euphorbiaceae) in the World]
- [ParsaKoWi2012](#): pp.10-Aug ( Adult (F) ) [Key to mealybugs (Hemiptera: Pseudococcidae) recorded on *Manihot* spp. (Euphorbiaceae) in the World]
- [ParsaKoWi2012](#): pp.10-Aug ( Adult (F) ) [Key to mealybugs (Hemiptera: Pseudococcidae) recorded on *Manihot* spp. (Euphorbiaceae) in the World]
- [Granar2009](#): pp.12-14 ( Adult (F) ) [*Dysmicoccus* species of Neotropical region.]
- [WilliaMa2009a](#): pp.97-101 ( Adult (F) ) [Pseudococcidae species from Mauritius]
- [Willia2004a](#): pp.161-163 ( Adult (F) ) [*Dysmicoccus* species of southern Asia]
- [MillerMi2002a](#): pp.971 ( Adult (F) ) [Key to Species of *Dysmicoccus*, *Oracella* and *Paradoxococcus* of the Gulf States Region (Adult Remales)]
- [RussoMa1997a](#): pp.154-155 ( Adult (F) ) [*Dysmicoccus* species of Italy]
- [Tang1992](#): pp.193 ( Adult (F) ) [Palaeartic & Oriental regions]
- [WilliaWa1988a](#): pp.47 ( Adult (F) ) [Tropical South Pacific Region]
- [AvasthSh1987](#): pp.15 ( Adult (F) ) [India]
- [AvasthSh1986a](#): pp.435 ( Adult (F) ) [India]
- [Willia1985](#): pp.108 ( Adult (F) ) [Australia]
- [Wang1982ZQ](#): pp.37 ( Adult (F) ) [China]
- [Yang1982](#): pp.84 ( Adult (F) ) [China]
- [DeLott1977](#): pp.29 ( Adult (F) ) [South Africa]



- **MillerMc1973**: pp.505 ( Adult (F) ) [North America]
- **Willia1970DJ**: pp.115 ( Adult (F) ) [World]
- **McKenz1967**: pp.157 ( Adult (F) ) [U.S.A., California]
- **Beards1966**: pp.408 ( Adult (F) ) [Federated States of Micronesia]
- **Beards1965c**: pp.57 ( Adult (F) ) [*Dysmicoccus brevipipes* complex]
- **McKenz1964**: pp.231 ( Adult (F) ) [North America]
- **McKenz1962**: pp.644 ( Adult (F) ) [North America]
- **Ezzat1960b**: pp.40 ( Adult (F) ) [Egypt]
- **Borchs1956d**: pp.866 ( Adult (F) ) [Israel]
- **Ferris1953a**: pp.332 ( Adult (F) ) [North America]
- **Ferris1950b**: pp.54 ( Adult (F) ) [North America]
- **Borchs1949**: pp.94 ( Adult (F) ) [Palaeartic region]
- **Zimmer1948**: pp.176 ( Adult (F) ) [Hawaii]

## Remarks

- **General Remarks**: Description and illustration of adult female by Betrem (1937), Ferris in Zimmerman (1948), Ferris (1950b), Balachowsky (1957b), Mamet (1957), Beardsley (1965c), McKenzie (1967), Ghosh & Ghose (1984), Williams (1970DJ), Williams & Watson (1988a), Williams & Granara de Willink (1992), Williams (2004a) and by Granara de Willink (2009).
- **Economic Importance**: A widely-distributed pest of pineapple on which it transmits the Pineapple Mealybug Wilt Disease (Zimmerman, 1948; Beardsley, 1965c; Bartlett, 1978e; Beardsley et al., 1982). Effective control has been achieved on pineapple in South Africa by controlling populations of the big-headed ant, *Pheidole megacephala* F. (Petty & Tustin, 1993; Petty & Manicom, 1995). Recorded as a vector of the Cocoa trinidad Virus (Williams & Granara de Willink, 1992). In Hawaii, it occurs infrequently on sugarcane and is of but minor economic importance (Beardsley, 1960a). In Hawaii, the tight association of *D. brevipipes* with *Solenopsis geminata* and three other ant species has reduced the efficacy of several natural enemies, such as cecidomyiid flies, coccinellid beetles, and multiple parasitoid species. (Carabali-Banguero, et al., 2013) Ants were less attendant on mealybugs when sucrose was available. However, the ants did not kill the mealybugs when additional sugar sources could be accessed. These results may have positive implications for managing *D. brevipipes* populations using biological control. More specifically, lower degrees of ant attendance could create a window of opportunity for other *D. brevipipes* natural enemies, such as predators or parasitic wasps. (Carabali-Banguero, et al., 2013)
- **Biology**: Infests the roots, leaves natural cavities of the host plant. Pataki (1974, 1975) described the moulting process. As other members of the genus *Dysmicoccus* reproduce sexually, and only *D. brevipipes* uses obligate parthenogenesis, the common ancestor of the two lineages of *D. brevipipes* would have reproduced sexually. Hence, as an evolutionary consequence of acquiring parthenogenetic reproduction, the asexual mealybugs appear to have abandoned production of the sex pheromone, which had been critical to attracting males among their ancestors. (Tabata, et al., 2017)
- **Systematics**: The internal transcribed spacer 2 gene sequences of *Dysmicoccus brevipipes* from Brazil from GenBank have accession number GU134673. Four haplotypes were found in China: one from mainland China and three from the island of Hainan. Phylogenetic analysis suggested that the haplotype from Hawaii was a lineage of mealybugs living predominantly in Brazil. (He, et al., 2014) Signoret interpreted the species described as *Coccus bromeliae* by Bouche (1833: 49) as a mealybug, but Lindinger (1932f) showed it to be a soft scale (Coccidae). In several pre-1900 publications, as well as in Fernald (1903b), the pineapple mealybug has been erroneously named *Pseudococcus bromeliae* (Bouché). Ben-Dov & Cox (1990) and Ben-Dov (1993) have clarified that Bouche's original description of *Coccus bromeliae* Bouche (1833: 49, 1834: 20) clearly indicate that his species was a soft scale insect (Coccidae), not a mealybug, as erroneously interpreted by subsequent workers, e.g. Fernald (1903b). This point is specific pointed out because in several pre-1900 publications, *D. brevipipes* has been misidentified as *bromeliae*. Beardsley (1959a) clarified previous indications, e.g. Zimmerman (1948), from Hawaii

about the occurrence of more than one species on pineapple, and described the closely related species *D. neobrevipes*.

- **Structure:** See colour photograph in Kawai (1980). Parida & Moharana (1982), Nur et al. (1987) and Moharana (1990) reported chromosome number  $2n=10$ .

## Illustrations

## Citations

- **AbdRab2001d:** biological control, distribution, 1357
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